

## March 2018 Meeting of the Scientific Guidance Panel for Biomonitoring California

### Summary of Panel Input and Recommendations

The Scientific Guidance Panel (SGP) for the California Environmental Contaminant Biomonitoring Program (also known as Biomonitoring California) met on March 2, 2018 in Davis. This document briefly summarizes the Panel's input and recommendations on each agenda item and related public comments. Visit the [March 2018 SGP meeting page](#) to access the presentations, other meeting materials, and the meeting transcript.

### Program and Laboratory Updates

[Presentation](#): Nerissa Wu, Ph.D., Chief, Exposure Assessment Section, Environmental Health Investigations Branch, California Department of Public Health (CDPH)

[Presentation](#): Jianwen She, Ph.D., Chief, Biochemistry Section, Environmental Health Laboratory Branch, CDPH

[Presentation](#): June-Soo Park, Ph.D., Chief, Biomonitoring Branch, Environmental Chemistry Laboratory, Department of Toxic Substances Control (DTSC).

The Panel discussed:

- Aspects of the [California Regional Exposure \(CARE\) Study](#)
  - Choice of analytes and archiving samples for future analyses.
  - Demographic targets for race, ethnicity, and income and how well those are being met in the first set of participants.
  - Designing effective recruitment materials that resonate with communities targeted for inclusion.
  - Use of electronic sign-up options, like having a tablet at recruitment events so people can immediately fill out the required forms.
- The observed plateauing of some chemical levels, and possible reasons for that (e.g., ongoing exposures to banned chemicals like PBDEs that are in the waste stream and food supply).
- Program resources and ways to leverage and augment those.
  - Identifying the Program's highest priority items that require additional resources (creating a "wish list"), and tying those in to decision-maker priorities.
  - Highlighting specific projects the Program could carry out, if resources were forthcoming.
  - Considering a fee-for-service model, or external grants, to augment state funds.
  - Writing a letter of support from the Panel.

- Creating effective messaging about the importance of Biomonitoring California, and making it more accessible to the public and policy makers.
- Having the capability to mobilize during emergency events, like wildfires, and measure relevant chemical exposures; this would generate valuable public health information, and also engage affected communities.
  - Looking for opportunities to conduct intervention studies that can be planned for before an emergency event like a wildfire. For example, being prepared to investigate the effectiveness of air filters in childcare facilities, schools, workplaces, or homes.
  - Consider providing air filters to families that cannot afford them, as a way to engage disadvantaged communities.
  - Providing information to communities on effective products, like specific types of air filters, that could help reduce exposures.
  - Collecting data complementary to biomonitoring, such as by analyzing air filters.

**Afternoon Session: Community Exposure to Air Pollutants – A Role for Biomonitoring**

[Brief Overview of Session](#) - Yana Garcia, J.D., Assistant Secretary for Environmental Justice and Tribal Affairs, California Environmental Protection Agency

[Transforming California's Approach to Community Air Pollution - New \*Community Air Protection Program\* Established under \*AB 617\*](#). Presentation by Heather Arias, Chief, Community Planning Branch, Office of Community Air Protection, California Air Resources Board.

[Advances in Biomonitoring Methods for Volatile Organic Compounds \(VOCs\)](#).

Presentation by Victor De Jesús, Ph.D., Chief, Volatile Organic Compounds Laboratory, Tobacco and Volatiles Branch, Centers for Disease Control and Prevention.

The Panel, guest speakers, and the audience discussed a range of topics, including:

- High priority air pollution issues already identified by communities, including
  - Addressing cumulative air pollutant burdens, including both outdoor and indoor air pollutants.
  - Taking action on pollution associated with ports, including “inland ports” (like large concentrations of warehouses),
  - Pesticide-related air pollution.
  - Air pollutants associated with oil and gas operations.
  - Looking at land use issues and setting up health protective buffers.
- The need to take action on already identified community air pollution issues, and not just conduct more studies.

- Ensuring that any biomonitoring studies are designed to support effective action.
- For AB 617 implementation:
  - Engaging with communities that do not already have an organized “voice,” such as through community grants.
  - Engaging with industry stakeholders and local government on issues like land use.
- Defining “communities” and identifying those that are disproportionately exposed for purposes of AB 617.
  - Ways to determine geographic boundaries.
  - Addressing communities not defined by geography, like sensitive subpopulations across the state.
  - Gathering recommendations on defining a community from a range of stakeholders.
  - Allowing communities to self-identify.
  - Looking at relevant data on different scales, such as at the census tract or county level.
  - Conducting assessments to objectively look for “hot” areas and ensure that impacted communities are not missed.
- Innovative approaches for measuring or modeling emissions, such as:
  - Deploying Google street-view cars with air quality monitors and using their visual data (e.g., presence of gas stations and factories) as an input for modeling.
  - Use of remote-sensing technologies for detecting air pollution (such as satellite-based or aircraft-based sensors).
  - Newer technologies for personal air monitoring.
- Allocation of funding under 617 – examples include:
  - Contracts for community-based participatory research, such as [IVAN Air Monitoring](#) in Imperial County.
  - Grants to communities and non-profit organizations for various air pollution projects.
  - Data portal, to provide more transparency and better access to air pollution data.
  - Technology development, such as black carbon sensors.
- VOC biomonitoring and related efforts:
  - Quality control programs, such as public health laboratory proficiency testing and international quality assurance programs.
  - Examining VOC profiles to identify specific sources.
  - Linking VOC biomonitoring results to other types of data, such as traffic density information.

- Choice of VOCs to include in biomonitoring method.
- Application of CDC's urinary method to measure VOCs in samples collected in the East Bay Diesel Exposure Project (EBDEP).
- Potential collaborative opportunities between Biomonitoring California and CARB:
  - Using Biomonitoring California data, such as from the CARE Study and the EBDEP to help prioritize communities for immediate action under AB 617.
  - Biomonitoring 1-nitropyrene metabolites to demonstrate the effectiveness of clean diesel regulations.
  - Collecting biomonitoring data to help validate emission modeling results.
  - Designing biomonitoring projects in selected communities as one metric for evaluating progress under AB 617, including achieving objectives under the Community Emission Reduction Program.
  - Using Biomonitoring California materials, such as fact sheets, and leveraging the Program's prior community connections to help engage with communities for AB 617 efforts.
  - Applying biomonitoring on a larger scale statewide to track levels of air pollutants over time, including demonstrating reductions from policy changes.

### **Increasing Awareness of Program Findings – Upcoming Website Feature**

[Presentation](#) and demonstration by Amy Dunn, M.P.H., OEHHA, and Ulrich Weeren, Studio Weeren

The Panel's suggestions included:

- Revise messaging to aim it more at the public, such as listing chemicals by where they are typically found (e.g., in furniture, cosmetics, flame retardants) and not just by chemical name.
- Include a way to search for a chemical by type (e.g., solvents, pesticides, fragrances).
- Review existing databases, like Chemical Data Commons or Pharos, for approaches to search options.
- Incorporate a way to illustrate trends in the findings, and comparisons across groups and regions.
- Provide interpretations of the findings, and what actions to take (e.g., to reduce exposures) – this could be done by drawing on existing Biomonitoring California results return materials.
- Include comparisons with national biomonitoring results.

- Provide a clear and easy way to link to the existing results database that includes complete data tables for all chemicals measured in each study.
- Use focus groups for testing the design.
- Highlight particular groups studied, like firefighters or Asian/Pacific Islanders.
- Include brief video explanations of various concepts.
- Recognize that simple icons will be interpreted differently by different people.
- Develop narratives that can address complex findings, rather than attempting to distill results into simple statements or icons.

